

REMARKS

Claims 2, 4-6, 10, 23, 27, 32-68 were previously canceled. Claims 1, 3, 7-9, 11-22, 24-26, 28-31 and 69-74 are currently pending.

Claims 72-74 have been rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. This rejection is respectfully traversed.

According to the Official Action, the specification does not provide written support for immobilized probes attached to a first surface and chemiluminescent enhancing material present on a second surface opposite the first surface. The specification, however, discloses support comprising a quaternary onium microgel layer adjacent to an azlactone functional polymer layer (page 22, lines 5-8 of the specification). As described in the specification, “. . . coulombic forces and hydrophobic-hydrophobic interactive forces can steer the diffusion of a dioxetane anion . . . through the swollen azlactone functional hydrogel layer or porous polyamide functional polymer layer to the adjacent enhancing layer” (page 22, lines 8-12 of the specification). The specification thus describes diffusion of dioxetane anions *through* the support to an adjacent enhancing layer. Since the dioxetane anions diffuse *through* the functional polymer layer to the *adjacent* enhancing layer, the dioxetane anions are necessarily generated on the surface opposite the enhancing layer. In addition, FIG. 4 illustrates a multi-layer support comprising a functional polymer layer 17 adjacent a cationic microgel layer 19. The cationic microgel layer can include a polymeric onium salt (page 16, lines 17-18 of the specification). As can be seen in FIG. 4, the probes 23 are immobilized on the support opposite the cationic microgel layer (19). It is respectfully submitted that the above

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disclosure provides clear written support for the subject matter of claims 72-74.

Reconsideration and withdrawal of this rejection is therefore respectfully requested.

Claims 1, 3, 7-9, 11-22, 24-26, 28-31 and 69-74 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over Claims 1-24 and 58 of copending U.S. Patent Application No. 10/462,742. This rejection is respectfully traversed.

Submitted herewith is a terminal disclaimer over U.S. Patent Application No. 10/462,742. As set forth in the Official Action, a timely filed terminal disclaimer may be used to overcome a provisional rejection based on a nonstatutory double patenting ground. Reconsideration and withdrawal of this rejection is therefore respectfully requested.

It is noted that Claims 25, 26, 28-31 and 69-71 have not been rejected on grounds other than nonstatutory obviousness-type double patenting. Accordingly, it is respectfully submitted that, upon filing the terminal disclaimer, Claims 25, 26, 28-31 and 69-71 are allowable. It is also noted that Claims 72-74 have only been rejected under 35 U.S.C. §112, first paragraph, in addition to the ground of nonstatutory obviousness-type double patenting. However, as set forth above, the subject matter of Claims 72-74 has clear written support in the specification. Accordingly, it is respectfully submitted that, upon filing the terminal disclaimer, Claims 72-74 are also allowable.

Claims 1, 3, 7-9, 11-22 and 24 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over each of U.S. Patent No. 4,849,495 to Bronstein et al. (hereinafter referred to as "Bronstein '495") and U.S. Patent No. 5,336,596 to Bronstein

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et al. (hereinafter referred to as “Bronstein ‘596”) taken in combination with each of U.S. Patent No. 5,981,185 to Matson et al. (hereinafter referred to as “Matson”) or U.S. Patent Application Publication No. 2001/0012537 A1 to Anderson et al. (hereinafter referred to as “Anderson”). This rejection is respectfully traversed.

Claim 1 recites a support having a surface, a chemiluminescent quantum yield enhancing material present in spatially defined regions on the surface of the support and probes covalently, ionically or physically attached to the surface of the support. The Official Action has pointed to no teaching or suggestion in any of the cited references of a solid support as set forth in Claim 1. Moreover, Bronstein ‘596 discloses the use of quaternary onium polymers as a membrane or as a coating on other supports (column 8, lines 45-47 of Bronstein ‘596). Bronstein ‘495 similarly discloses the use of the quaternary onium polymers as a membrane or as an overcoating for “preformed membranes” (column 13, lines 32-35 of Bronstein ‘495). In order to arrive at the invention defined by Claim 1, the Official Action is relying upon Matson and Anderson which, according to the Official Action, “establish that two dimensional microarrays composed of discrete areas . . . containing analytical reagents are well known for use in biological binding assays” (page 4 of the Official Action). However, neither Matson nor Anderson when combined with Bronstein ‘596 or Bronstein ‘495 as proposed in the Official Action teach or reasonably suggest the invention defined by Claim 1. Moreover, the portions of Matson being relied upon merely disclose the arrangement of the oligonucleotide probes. Similarly, the portions of Anderson being relied upon merely disclose the arrangement of the “biochemical molecules” (i.e., bound oligonucleotides or peptides). The Official Action has pointed to no teaching or suggestion of a support as

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set forth in Claim 1 having a chemiluminescent quantum yield enhancing material present in spatially defined regions on the surface of the support. Accordingly, it is respectfully submitted that Claim 1 is patentable over the cited references. Claims 3, 7-9, 11-22 and 24 depend either directly or indirectly from Claim 1. Accordingly, these claims are also patentable over the cited references for at least the reasons set forth above with respect to Claim 1. In view of the above, reconsideration and withdrawal of the aforementioned rejections is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

MERCHANT & GOULD P.C.



Christopher W. Raimund
Registration No. 47,258

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Date

P.O. Box 2903
Minneapolis, Minnesota 55402-0903
Telephone No. (202) 326-0300
Facsimile No. (202) 326-0778

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